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The Education System in Israel 2020–2024: A Conservative System in a Dynamic Reality

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The Education System in Israel 2020–2024: A Conservative System in a Dynamic Reality

Nachum Blass

This year, the chapter focuses on three main topics: the state budget, teaching personnel, and academic achievements. However, before delving into these issues, it is impossible not to address — insofar as the available data allow — the tangible outcomes and potential future impacts of the three tectonic upheavals that have shaken, and continue to shake, Israeli society and the education system since 2020: the Covid-19 pandemic, the judicial reform plans and the social and political turmoil they have sparked, and the October 7 massacre and the ensuing war. Naturally, the full impact of these events — the most severe of which has yet to end — is not yet fully understood. Nonetheless, it is impossible to write a chapter summarizing recent developments in Israel's education system without a preliminary examination of their immediate and future effects.

While the Covid-19 pandemic impacted the entire education system to varying degrees, the change in government alongside the attempts to implement a judicial reform were reflected in the education system primarily through efforts to increase funding for Haredi educational institutions and an intensification of polarizing public discourse. Though this discourse largely took place among adults, it inevitably trickled into schools. The war, in contrast, has had a direct impact on all students in the education system — whether through displacement from their homes, the mobilization of family members for reserve duty,[1]

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1 The Arab and Haredi populations are less relevant in terms of reserve duty, and their share among those evacuated is lower relative to the rest of the population.

or the fear and chaos triggered by air-raid sirens and the scramble to reach protected spaces. A publication by the National Knowledge and Information Center for Emergency Homefront Support outlined the following:

> When examining the population of children and youth in detail, many were exposed to life-threatening situations and distressing online content. To date, approximately 19,900 children and youth have been recognized by the National Insurance Institute as victims of hostilities due to the war, and about 300,000 are children of reserve soldiers who were called to duty. Several studies have found that many children are experiencing significant distress and anxiety in light of the war events — 76% of children aged 2–12 suffer from high levels of emotional distress, and nearly 54% suffer from anxiety. Among parents, 27% reported high levels of depression and anxiety.[2]

With the outbreak of the war, nearly 300,000 soldiers — many of them parents, siblings, or more distant relatives of students — were called up for reserve duty.[3] Added to this are approximately 330,000 people who were evacuated from their homes or left voluntarily at the start of the war due to security concerns.[4] Recent data from the Ministry of Education indicates that since the war began, nearly 38,000 students from all educational levels have experienced displacement from their homes, about one-third from northern communities and two-thirds from communities in the south.[5] Table 1 presents the numbers by education level and district of residence.

2 National Knowledge and Information Center for Emergency Homefront Support, September 16, 2024.

3 See IDF Spokesman website.

4 According to an initial estimate of the Israel Democracy Institute from October 19, 2023.

5 Data supplied to the Taub Center under the Freedom of Information Law.

Table 1. Number of students evacuated since the start of the war, by education level and area of residence

	North	South
Preschools	1,932	5,204
Primary school (grades 1–6)	5,287	10,692
Middle school (grades 7–9)	2,719	4,911
High school (grades 10–12)	2,669	4,227
Total	**12,607**	**25,034**

Source: Nachum Blass, Taub Center | Data: Ministry of Education, Freedom of Information Law

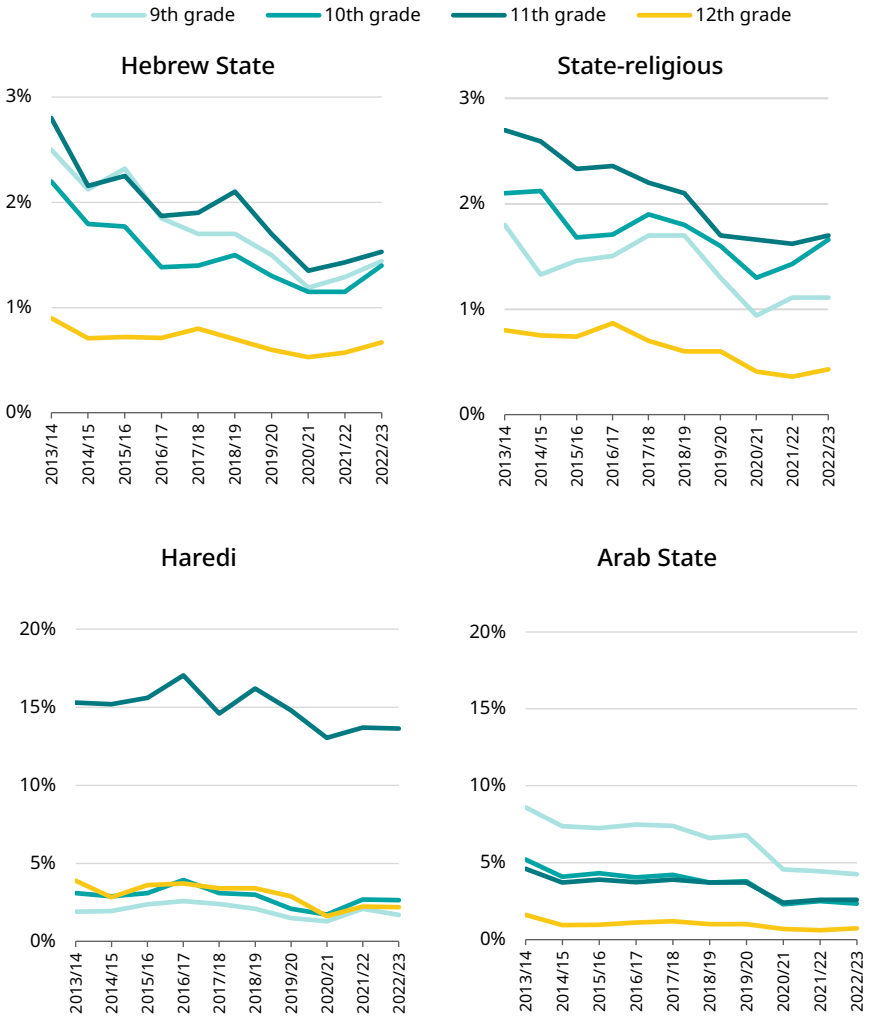
In the immediate term, it can be said with a high degree of certainty that a situation in which tens of thousands of children spend an extended period away from their homes, and hundreds of thousands have a parent or close family member in reserve duty, will have some impact — one way or another — on their ability to learn and develop in a healthy manner.[6] It is also important to remember that even students who are not directly exposed to the war are affected by it to some extent. Consequently, an increase in dropout rates, a decline in academic achievements, and a rise in incidents of physical and other forms of violence are expected outcomes.

The long-term effects of the war (and, as we will see later, the impacts of the Covid-19 period as well) are more difficult to assess, partly because the Ministry of Education publishes data on academic and educational achievements on official platforms only up to 2022. The effects of the war on academic performance cannot yet be evaluated as the results of the Meitzav (Growth and Effectiveness Measures for Schools) tests have not yet been published, and the latest Bagrut (matriculation) exam results that have been released pertain to exams taken before the war. Therefore, for now, what can be done is to consider sporadic data published by various organizations that may serve as indicators of emerging trends within the education system due to the war.

6 For the impact of on young children of reserve duty of a parent and evacuation from home, see the chapter on early childhood in this volume.

For instance, according to Central Bureau of Statistics (CBS) data on student dropout rates, the positive trend of a consistent decline in dropout rates has halted, and, in some groups, even reversed since 2020. An earlier Taub Center publication examined dropout trends in high school education (Yanay et al., 2019). Since that publication, numerous global events, foremost among them the Covid-19 pandemic, have caused instability in the education system and may certainly have impacted dropout rates. Figure 1 presents dropout rates in high school education by grade level and population group. Over the last decade, dropout rates have generally declined across all groups and grade levels. Notably, the most significant decrease occurred during the years most heavily influenced by Covid-19 — the 2020 academic year and the transition to 2021. However, in the subsequent two years (2022–2023), a slight increase in dropout rates was measured, though they did not return to pre-Covid-19 levels. In Hebrew education, dropout rates peak in 11th grade, while in Arab education, they are highest in 9th grade. Trends in the State-religious and State (secular) education systems are relatively similar, with most dropping out occurred between 9th and 11th grade, whereas in Haredi education, dropout rates are particularly high in 11th grade due to the transition to advanced yeshivot.

Figure 1. Dropout rate in high school from the 2013/2014 to 2022/2023 school years, by grade level and education sector



Source: Nachum Blass, Taub Center | Data: Ministry of Education, A Wide Perspective website

In a discussion held by the Knesset Education Committee in February 2024, a deputy director-general from the Ministry of Education reported that following the government's decision to evacuate residents of the Gaza border communities and Northern border residents at the start of the war, approximately 48,000 students in the education system were evacuated from their homes — about 31,300 from Southern communities and about 16,700 from Northern communities. Regarding dropout rates, it was stated in the same discussion that 15,502 high school students were among those evacuated, and attendance was recorded in the Ministry's systems for 91% of them. The remaining 9% are unreported, but the Ministry has information about them: about 1,200 did not regularly attend educational frameworks but were located and reintegrated into an educational framework, while another 815 still do not attend educational frameworks regularly (Elmakies, 2024).

As things currently stand, the three most severe outcomes of the three crises — especially the judicial reform and the war — are as follows:

1. ***The widening gaps between the four subsystems that make up the Israeli education system:*** Hebrew State education, State-religious education, Arab State education, and Haredi education. These gaps, which already posed challenges to creating a shared Israeli ethos, are now evident in every discussion and interaction, both private and public. Counting skullcaps at demonstrations, tallying fallen IDF soldiers according to their ideological affiliations, and disregarding objective needs when examining budgets allocated to different groups — all these are only partial expressions of a new reality. The larger danger lies in the far-reaching disintegration of the most basic shared ethos — that of Israel as a Jewish and democratic state.
2. ***The intensification of violent and intolerant discourse and behavior toward others' opinions and actions:*** These phenomena are increasingly prevalent among students, between students and their teachers, in the teachers' lounges, and between teaching staff and parents. This raises serious concerns about the future character of Israeli society. Open discourse in educational spaces is a critical component in shaping values of tolerance, listening, and mutual respect. Respectful discussion in the educational environment is essential for developing social skills and ensuring a democratic, open, and inclusive society in the future.

3. ***A routine defined by a lack of routine:*** The education system is supposed to be a source of stability and support for students, but, in recent years, it has become evident that the system cannot always be relied upon to function properly. Instability and unreliability have become the norm. This raises profound questions about the future, particularly regarding students' attitudes toward institutional systems as they grow up. What kind of citizens are we educating if they learn that the system cannot be trusted? Will they understand the importance of living within and adhering to systems and regulations, or will they conclude that these systems are unreliable and therefore not worth obeying?

One of the most important tasks of the education system will be to rediscover and reinforce the bonds that unify Israeli society and instill in all students the values of solidarity, tolerance, critical thinking, and identification with the fundamental values of the State of Israel as expressed in the State Education Law and the Declaration of Independence.

We now proceed to discuss the Ministry of Education's budget, which has also been influenced by the fluctuations occurring in the country. Following that, we expand on the issue of teaching personnel. Finally, we examine the changes in students' achievements in Israel and compare them to those in other countries.

Budget

Between 2019 and 2024, significant changes and disruptions occurred in the state budget. In 2020, there was no approved budget, and in other years, frequent changes were introduced — some necessitated by Covid-19, some due to the massive increase in funding for the Haredi and religious sectors following the change in government, and others due to wartime needs.

As we have described in the past (Blass & Cogan, 2014), when discussing the budget of any government ministry, it is necessary to address three forms of the budget:

1. The ***original budget***: The budget approved by the Knesset at the beginning of the year.
2. The ***approved budget, including amendments***: The budget that incorporates all changes made to the original budget during the year and approved by the Knesset Finance Committee.
3. The ***actual executed budget***.

For each of these, there are effectively two types of budgets: the net budget and, alongside it, the gross budget, which includes contributions from additional sources such as parent payments. Here, we focus solely on the net budget.

According to the data presented in Table 2, over the past five years, there has been an increase of more than 37% in the original education budget, 32% in the amended budget, and 34% in the executed budget.

Table 2. The regular budget, 2019–2024

NIS billions

Year	Original budget	Approved budget	Executed budget
2019	60.5	64.1	60.9
2020	63.7	66.6	64.0
2021	67.3	71.8	66.4
2022	67.8	74.6	70.6
2023	79.5	84.9	81.5
2024	82.9		

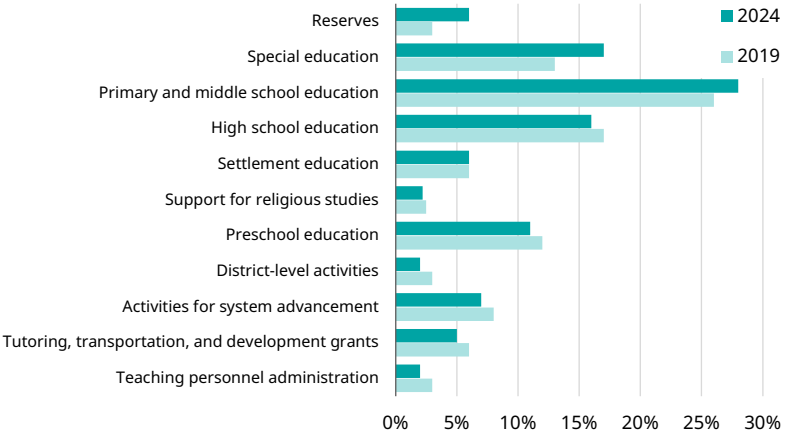
Source: Nachum Blass, Taub Center | Data: Ministry of Education

As can be seen in Table 2, the Ministry of Education's original budget is always lower than the amended budget, and the executed budget is almost always higher than the original budget (except in 2021, when it was lower than the original by NIS 900 million). However, the executed budget is significantly lower than the amended budget. This is because the Ministry of Education almost never manages to fully implement changes introduced to the budget during the year, especially towards its end. This raises the question: does the Ministry of Education intentionally build its budget with an initial shortfall, or is this indicative of its inability to fully utilize the budget allocated to it?

Changes in the Ministry of Education budget by budget areas

Analyzing internal changes in the Ministry of Education's budget as reflected in the allocation between areas reveals significant shifts in priorities and policy. As shown in Figure 2, among the areas that recorded a notable increase in their share of the budget are special education and primary and middle school education. Conversely, there has been a significant decline in other areas, such as the teaching personnel administration and district-level activities. Another substantial change is the increase in the reserves budget, which includes government coalition funds.

Figure 2. The original budget by area as a percent of the Ministry of Education budget, 2019 and 2024



Source: Nachum Blass, Taub Center | Source: Ministry of Finance, Accountant General Division

Table 3 examines whether the decline in the relative share of certain areas, such as the teaching personnel administration, results from a reduction in the budget allocated to them or from the significant growth in the ministry's overall budget and the budgets allocated to other areas. The data show that, in nominal terms, the budgets of nearly all areas increased, though with considerable variation in the rate of growth. While areas such as reserves, special education, and primary education saw substantial increases, other areas experienced only moderate growth, and, in some cases, even a decline, such as occurred in the teaching personnel administration.

Table 3. The original budget by area and percent change, 2019 and 2024

Area	2019 NIS	2024 NIS	Percent change: 2019 to 2024
Reserves	1,963,487	4,848,480	147%
Special education	7,889,882	13,882,639	76%
Primary and middle school education	15,871,614	23,174,660	46%
High school education	10,100,791	13,311,138	32%
Settlement education	3,673,020	4,648,710	27%
Support for religious studies	1,490,675	1,863,628	25%
Preschool education	7,194,180	8,792,392	22%
District-level activities	1,730,668	1,990,024	15%
Activities for system advancement	4,890,305	5,622,983	15%
Tutoring, transportation, and development grants	3,663,573	4,194,076	14%
Teaching personnel administration	1,988,180	1,743,055	-12%

Source: Nachum Blass, Taub Center | Data: Ministry of Finance, Accountant General Division

Budget changes: Selected areas

Special education

Special education is the area that experienced the largest budget increase between 2019 and 2024, with its share of the Ministry of Education's budget rising significantly from 13% to 17%. The main factors behind this increase, as we noted last year (Blass, 2023), were:

- The continuous growth in the number of students eligible for special education services.
- An increase in the proportion of high-cost students with special needs among all special education students.
- The implementation of the special education reform, which expanded the range of services provided to these students, including increased budgets for inclusion and integration in schools and a broader definition of students eligible for individual integration packages, resulting in a substantial increase in their numbers.

Such extreme changes over a relatively short period point to the Ministry of Education's inability to control budgets allocated to special education. This collapse was particularly evident in 2022, with a gap of over 10% between the original budget and the executed budget. This situation led to the appointment of a public committee chaired by Amos Shapira to examine the causes of the crisis in special education and propose solutions. While the committee has not yet concluded its work, it has already presented preliminary insights, as expressed by the committee chair during a meeting with the Ministry of Education's management and later in a session of the Knesset Education Committee. According to these insights, the primary cause of the crisis is actually the state of general education, which drives parents of children with special needs to prefer separate frameworks over regular ones and to seek out every path to secure diagnoses that, in their view, provide their children with educational and budgetary advantages. To address this, the committee chair recommended a reduction in the average number of students per class in preschools, primary schools, and middle schools to 19. According to him, this can be achieved without increasing the number of teachers or their employment costs, provided the number of teaching hours allocated to each class is reduced. The same conclusion was reached in an earlier Taub Center study (Blass et al., 2023b).

Primary and middle school education

The area of primary and middle school education is the largest within the Ministry of Education's budget and is divided into four segments: primary schools and middle schools in the Official education system receive the majority of the budget, about 85% of the total, the Independent education system receives about 8%, Ma'ayan HaChinuch HaTorani about 4%, and Recognized but Unofficial schools along with Exempt institutions together receive about 3%.

Two main trends can be identified in this area. First, a consistent growth trend between 2019 and 2024; second, significant gaps between the original budget and the actual execution budget, with execution exceeding the original plan in most years. For example, in 2022, the executed budget was about NIS3.66 billion higher than the original budget. 2023 marks an important milestone with a sharp increase in the budget. The original budget for that year was approximately NIS 24.4 billion — an increase of about 46% compared to the previous year. Although the original budget for 2024 is slightly lower than that in 2023, it remains significantly higher than the budgets of preceding years. The data indicate a clear trend of increasing investment in primary and middle school education at an annual rate of about 5%, reflected — especially in primary education — by an increase in the number of hours per student and a reduction in the number of students per class. The exceptional increase in 2023 can be attributed to the signing of the new salary agreement with the Teachers' Union.

Table 4. Primary and middle school budgets

NIS thousands

Year	Original budget	Approved budget	Executed budget	Change in original budget	Change in amended budget	Change in executed budget
2019	15,871,614	17,310,406	17,156,855			
2020	—	—	18,103,233			
2021	17,492,798	18,647,196	18,237,983			1%
2022	16,713,133	20,668,715	20,369,155	-4%	11%	12%
2023	24,459,411	25,403,842	25,099,694	46%	23%	23%
2024	23,174,660			-5%	—	—

Source: Nachum Blass, Taub Center | Data: Ministry of Finance, Budget Key

Reserves

The reserves budget area is designed to provide flexibility in budget management and to address unforeseen events. Reserves are divided into three main types: a reserve for price increases, intended to fund price hikes; a fiscal reserve, meant to serve as an available budgetary source for emerging needs during the year without compromising adherence to fiscal rules (deficit targets and expenditure limits); and other reserves (Bar, 2024).

In the years reviewed, there was a sharp increase in the reserves section of the Ministry of Education's budget, from approximately NIS 1.96 billion to NIS 4.85 billion — a rise of 147% (see Table 3 previously). One of the most notable differences between the amended budget and the original budget is the complete depletion of reserve items and the increase in other items in the amended budget.

However, alongside the sharp increase in this section, there was also a dramatic change in the internal allocation between the reserve for price increases and the fiscal reserve. Between 2019 and 2024, the relative share of the fiscal reserve in the reserves budget rose by 115%, from 11% to 24%, while the share of the reserve for price increases dropped by 15%, from 89% to 76% of the reserve budget. The main source of this increase stems from the growth in the budget earmarked for the government Coalition Agreement (included in the fiscal reserve). In the 2023 and 2024 budgets, this item constituted approximately 85% of the fiscal reserve. These changes reflect a clear trend of diverting resources toward fulfilling political agreements (Dori, 2024).

An example of the manipulation of the reserves budget to suit political considerations can be seen in the government's decision regarding the budget cuts for 2024. It was decided to reduce the reserve budget intended for the wage agreement with secondary schools, while preserving the reserves budget allocated for the inclusion of Haredi teachers in the New Horizon Agreement.

Are Hebrew State and Arab State education discriminated against in budgetary terms?

One of the sensitive issues at the heart of public debate about Israel's education system addresses the question: Are education budgets distributed equitably and with transparency across the different parts of the system (Hebrew State education, State-religious education, Haredi education, and Arab State education), and has the inequality in funding between these segments expanded or narrowed? The prevailing opinion, primarily based on data about average expenditure per student and average class size published by the Ministry of Education and the CBS, is that the system overtly and covertly prioritizes State-religious education over other parts of the system. Indeed, the data seem to support this view (Dattel, 2024). However, a more thorough analysis of the data reveals a much more complex picture.

Taub Center researchers have published several studies on per-student expenditure across different educational stages.[7] Their findings show that while students in State-religious education indeed benefit from higher budgets than their peers in other parts of the education system, these disparities are primarily explained by transparent funding formulas based on rules that generally have a clear and demonstrable connection to educational needs. These funding rules have remained largely unchanged over the years. Therefore, the current differences in allocation between sectors and supervisory frameworks do not stem from arbitrary decisions influenced by external considerations recently made but rather from decisions shaped over many years by a combination of political, educational, and ideological considerations. These decisions are reflected in primary legislation (such as the State Education Law or the Compulsory Education Law), secondary legislation (various regulations), director-general circulars, or funding formulas, which typically involve minimal disagreement. The remaining disparities are only partially attributable to unique funding packages (such as prayer hours for State-religious education or five-year plans for the Arab sector). Furthermore, the funding gaps between the different parts of the system are steadily narrowing.

7 For information on per-student expenditure in primary education, see Blass and Bleikh, 2018; 2020 (an additional study is forthcoming). For expenditure in high schools, see Blass and Bleikh, 2024. The topic of per-student expenditure in middle schools is in advanced stages of research.

Education manpower

As in previous years, the issue of teacher shortages has arisen again this year, and, as in previous years, it remains difficult to identify such a shortage or even a trend suggesting its emergence (though localized shortages may exist in certain communities or for teachers of specific subjects). To substantiate this claim, we reiterate that even in the 2023/2024 school year, the growth rate in the number of teachers — both overall (3.3%) and across various sectors of the education system — was greater than the growth rate in the number of students (1.5%).[8] While the number of new teachers in 2023/2024 was lower than in 2022/2023 (12,411 compared to 14,890), the number of new teachers who joined in 2023/2024 still significantly exceeded the number of teachers who left that year (10,143).[9] This will be further discussed in the section on teacher turnover.

Regarding the quality of teachers and their suitability for the subjects they teach, we have no data indicating a decline in quality. First, it is important to note that suitability or unsuitability for teaching a subject depends largely on its definition. In Israel, the CBS defines a teacher as suitable to teach a given subject if they have a bachelor's degree from a recognized institution of higher education in Israel or abroad (for those with a degree recognized from abroad), a bachelor's degree in education from academic colleges of education, or a teaching license. For suitability to teach mathematics, for instance, a teacher must hold a degree, teaching certificate, or teaching license in one of the following fields: mathematics, statistics, computer science, physical sciences, or engineering. It is worth noting that many years of experience teaching a particular subject or participating in professional development courses for that subject are not sufficient for a teacher to be considered suitable. Even under the CBS's strict criteria, the data from the Statistical Abstract of Israel 2023 show a significant improvement over the past decade in this area, particularly in mathematics and English (as a second language) (Table 5).

8 Although the growth rate of full-time positions in 2023/2024 was negligible, this is fully explained by the reduction in the rate of full-time positions in Haredi education. This indicates an increase in the number of Haredi teachers working part-time.

9 The CBS reports teacher departures only after three years have passed since they no longer appear in the Ministry of Education's records.

Table 5. Suitability rates for teaching Hebrew (language arts), mathematics, and English (as a second language), 2012/2013 and 2022/2023

	2012/2013			2022/2023		
	Primary school	Middle school	High school	Primary school	Middle school	High school
Hebrew (language arts) — total	23.3%	64.5%	62.8%	25.6%	60.2%	63.8%
Mathematics — total	28.3%	63.1%	62.6%	38.4%	73.8%	77.3%
English (as a second language) — total	56.1%	65.0%	59.0%	69.6%	76.4%	71.6%

Source: Nachum Blass, Taub Center | Data: CBS, 2023a, Table 4.48

Although suitability rates for these subjects are far from 100%, this is also the case in many other advanced education systems. In Australia, for example, 39% of principals in major urban areas and 42%–66% in more remote areas reported difficulties in placing properly trained teachers in classrooms (Du Plessis, 2013). It seems that this is a global phenomenon.

Over the past decade, the share of teachers without an academic degree in primary education — both Hebrew and Arab — has significantly declined, while the share of teachers with advanced academic degrees has risen, reaching nearly 30% (CBS, 2023a, Table 4.34). A similar trend is observed in high school education (Table 4.35). Furthermore, the percentage of teachers participating in professional development programs has increased from an average of about 65% in 2008–2013 to an average of 80% in 2018–2021.[10] In other words, the data indicate a general trend of increasing educational attainment among teachers in the education system.

There are also frequent reports about difficulties in recruiting high-quality principals, though the data do not always support such popular beliefs. The data in the CBS Statistical Abstract (Table 4.39) point to several phenomena, some supporting the claim of difficulty in recruiting principals and others

10 CBS, 2023a, Table 4.47. Although we do not have data on the relationship between the quantity of professional development programs and educational outcomes, this does reflect the motivation of the teachers.

contradicting it. First, the proportion of new principals in recent years is higher than in the years included in the table. Particularly notable is the increase in the share of principals with a master's degree or higher, rising from less than 70% in 2009 to over 80% in 2022. Second, the proportion of younger principals has significantly declined. This may suggest a reluctance among younger candidates to take on principal roles, though it could also reflect stricter admission criteria for such positions. Looking across education levels, the proportion of principals with very low seniority has increased in primary education but declined in high school education — possibly indicating greater difficulty in recruiting principals for primary schools compared to high schools.

Teacher absenteeism[11]

The issue of teacher absenteeism is not new and has been discussed in detail in the State Ombudsman Report (2019) as well as in earlier publications (Rosenblatt & Shirom, 2007). Data from the Statistical Abstract 2023 on the total number of teacher absence hours, the average number of absence hours per teacher, and the percentage of absence hours out of total teaching hours reveal several important findings that merit close attention and an in-depth analysis.

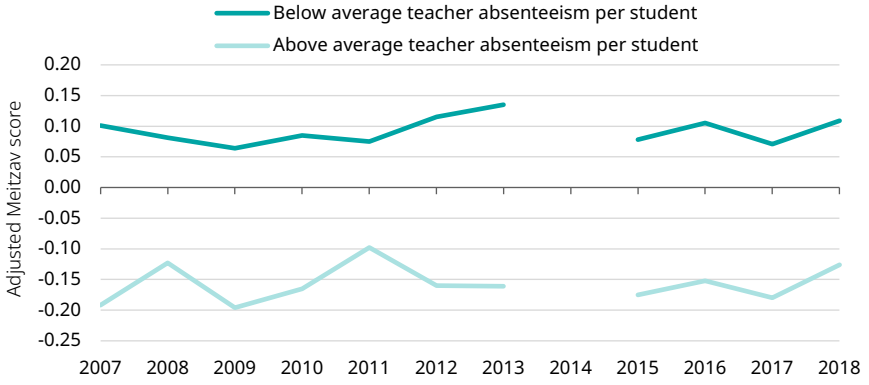
The most notable finding is that in the past two years, the absentee rate for female teachers has doubled compared to the average rate over the previous nine years. On average, absences increased from about 5 million hours annually during the 2012/2013–2020/2021 school years to about 11 million hours annually in the 2021/2022 and 2022/2023 school years. This trend holds across all categories in the relevant CBS data table (CBS, 2023a, Table 4.44), with minimal variance among groups. It should be noted that as of the 2021/2022 school year, the table includes absentee hours for teachers in high school education, which were not previously counted and contributed approximately 2.4 million hours annually to the total over the past two years. While this change explains part of the increase in absentee hours, it does not account for all of it. For the remaining discrepancy, two immediate explanations exist: improvements in reporting processes or the effects of Covid-19 and the associated isolation policies, which persisted even as the pandemic waned. Given the magnitude of the change, the first explanation seems more plausible.

11 This section, which addresses absences, substitute teaching, and teacher turnover, was written in collaboration with Dr. David Maagan from the CBS, based on CBS data.

If this interpretation is correct, then even when accounting for the addition of high school teacher absences in the past two years, the absentee rate in earlier years was likely significantly higher than reported. Two additional trends stand out: absenteeism rates are lower among male teachers (likely because women are more often the ones to stay home when children or other family members are sick), and they are lower in high school education.

Teacher absences can have significant educational and economic consequences. An in-depth analysis of the issue is beyond the scope of this chapter. However, a preliminary examination of the relationship between teacher absenteeism and academic achievements shows that in schools where teacher absence rates are above average, student achievements are lower than in schools where teacher absence rates are below average. As shown in Figures 3 and 4, this holds true for both primary and high school education. This is not surprising, as academic success depends on a stable learning environment and a close, productive relationship between students and their teachers, which is built on familiarity between them.

Figure 3. Academic achievements on the 5th grade Meitzav exams, by teacher absenteeism (hours) per student

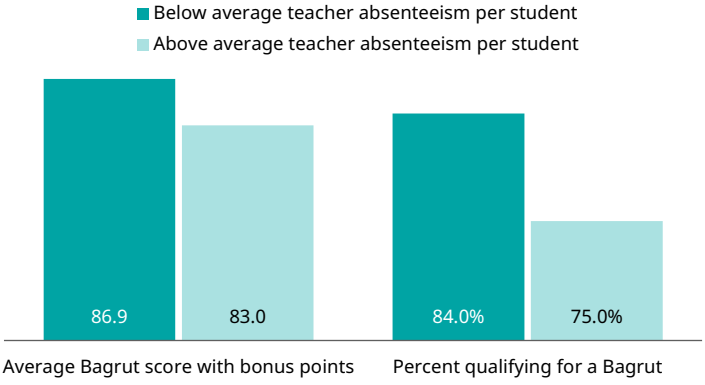


Note: The overall (adjusted) score in the Meitzav exams, expressed in terms of standard deviations, represents the relative position of a school compared to all schools participating in the Meitzav exams in the same year. A positive value indicates a relative position above the average, while a negative value indicates a relative position below the average.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

Examining the relationship between the average hours of teacher absences per student and achievements in Bagrut exams shows a similar picture.[12] From Figure 4, it can be seen that in the 2021/2022 school year, in schools where the number of absenteeism hours was below average, the average Bagrut score (including bonus points) was 86.9, compared to an average score of 83.0 in schools where the number of absenteeism hours was above average. Similarly, the Bagrut qualification rates were 84% and 75%, respectively.

Figure 4. Bagrut achievements, by teacher absenteeism (hours) per student, 2021/2022 school year



Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

Table 6 presents findings from a regression model examining the relationship between the average Bagrut score and teacher absence hours at the school level, across a sample of 83 schools. The findings show that the average score in Hebrew State schools is 6.7 points higher than in Arab schools, while no difference is observed between State-religious schools and Arab schools. Additionally, schools in periphery districts (Northern and Southern Districts) score on average 7.3 points lower than do schools in the Central District. Furthermore, every decile increase in the socioeconomic index of the school's students adds 4.0 points to the average score.

12 Data on teacher absenteeism in high schools are based on a survey of a sample of high schools conducted by the CBS in the 2021/2022 school year.

Finally, the average number of absence hours per student has a significant negative correlation with the school average Bagrut score, with each additional hour of absence reducing the average Bagrut score by 0.22 points. The findings of the model, based on the adjusted coefficient, indicate that the largest contribution to the explained variance in achievements is associated with the socioeconomic index of the school's student population.

Table 6. Regression model: Results of the estimate of explanatory variables for the average Bagrut scores at the school level

	Coefficient	Significance	Adjusted coefficient
Regression slope	68.871	<.0001	—
Hebrew State education	6.714	0.002	0.320
State-religious education	0.609	0.819	0.028
Socioeconomic index of the school students (deciles)	3.972	<.0001	0.685
Periphery	-7.337	<.0001	-0.346
Teacher absenteeism, average per student (hours)	-0.223	0.054	-0.153
Number of schools (N)	83		
R^2	0.582		

Note: The Socioeconomic Index of school students was developed by the CBS and is designed to characterize the composition of students in terms of parental education, parental income, number of siblings, and the mother's marital status. The index was developed using a factor analysis method.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

As noted, teacher absenteeism has a significant impact on the budget as well. According to CBS data (2023a, Table 4.44), about 10.6 million hours of absences were recorded in the 2022/2023 school year. Data on teacher absenteeism are closely tied to the issue of substitute teaching. If every hour of absence requires a substitute, and the cost of one substitute hour is approximately NIS 150, the annual cost amounts to about NIS 1.6 billion. This is an enormous sum, and its educational benefit is questionable.[13]

13 In practice, for some of the absence hours, a substitute teacher from the school steps into the classroom, while in other cases, the class is simply sent home or given a break. Nevertheless, the cost of these absence hours remains very high.

The issue of teacher absenteeism also provides an important insight into the claim of a teacher shortage in the education system. Assuming the 11.5 million hours of absences recorded in 2022/2023 were all classroom teaching hours, and assuming a full-time teaching position comprises 25 weekly classroom hours (an average of 26 in primary education and 24 in high school education, totaling 875 hours per year), this translates to approximately 13,000 full-time positions or about 15,000 teachers. Even if we assume that only 50% of the absence hours require a substitute teacher and that only about 50% of the substitutes are certified teachers, this still reflects thousands of teachers available and interested in working either full-time or part-time. Moreover, the very willingness of these teachers to be available on short notice indicates their desire to teach. The logical conclusion is that the system likely does not make efficient use of the pool of teachers available to it. In any case, this weakens the claim that there is a teacher shortage in the education system.

Teacher mobility within the system

Each year, the CBS examines teacher mobility rates, which reflect leaving the education system or transferring from one school to another. A teacher is defined as having left the system if they do not appear in the Ministry of Education's teacher records for three years following their last recorded appearance. CBS data allow an analysis of teacher departures from educational institutions and transfers between schools since 1990 (CBS, 2023a, Table 4.52). Several interesting findings emerge from this analysis:

1. ***Stability in departure rates:*** The rate of teachers leaving the education system has not changed significantly over the years, ranging between 3.9% and 4.7% without a clear trend. However, transfer rates between schools have consistently and significantly decreased, from 9.5% in 1990 to 5.8% in 2019. This suggests an improvement in schools' retention power, with staff becoming more stable.
2. ***Differences by educational level:*** Departure rates among high school teachers were the highest, but they decreased over the years and, by 2019, were roughly equivalent to those in primary and middle schools. In contrast, transfer rates between schools were the lowest among high school teachers at both the beginning and the end of the period.

3. ***Sector differences:*** Departure and transfer rates in Arab and Haredi education are much lower than in Hebrew State and State-religious education. This likely reflects the greater importance of income stability in these sectors, which are weaker socioeconomically.
4. ***Age and seniority factors:*** Younger teachers tend to leave more frequently than older teachers (except, of course, near retirement age). This is a well-known phenomenon of early-stage dropout, often due to disappointment with the job or its various aspects, a lack of suitability, or an unwillingness or inability to persevere. Thus, teachers with low seniority in teaching have the highest departure rates.
5. ***Educational attainment trends:*** In 1990, teachers with higher education levels had higher departure and transfer rates. By 2019, this trend had reversed, with departure rates becoming higher among those without an academic degree and those with only a bachelor's degree.
6. ***Socioeconomic differences:*** In all years, departure and transfer rates were higher in communities with higher socioeconomic rankings. However, this trend has smoothed out in recent years (except for the departure rates in the 2019/2020 school year).

Teacher turnover in the education system

Discussions about teacher shortages and turnover typically focus on the systemic level. The primary question asked is how many teachers are missing across the education system. An alternative approach is to delve deeper, asking how many teachers are lacking in a particular district, locality, subject, sector, or supervisory authority. Similarly, discussions about teacher turnover are usually framed in the same way.

In this section, we focus on the school level. The difference between the two approaches can be illustrated with the following example. Suppose there are two schools, each with 100 teachers. In a given year, 50 teachers transfer from one school to the other, and 50 teachers transfer in the opposite direction. Overall, no teachers are missing, and there appears to be no systemic problem. However, the principal, teaching staff, students, and parents at each school face the implications of a 50% turnover rate, with various consequences — some positive and others negative.

On the positive side, turnover can bring fresh perspectives, introduce new ideas, and sometimes even improve teaching quality by recruiting more skilled teachers.[14] However, this often comes at the expense of other schools whose situation may worsen. Generally, the higher the turnover rate, the greater the negative impact, which often outweighs the benefits. Turnover consumes valuable management time, involves challenges in adjusting to a new work environment, and, most importantly, disrupts the sense of stability and continuity for students, who must adjust to many new teachers. If most new staff members are young and inexperienced, more training is required, the likelihood of them leaving within a year is higher, and more teachers are needed since new teachers often work part-time. Additionally, instability and lack of continuity can hinder long-term initiatives and even impact the overall quality of the teaching staff.

Therefore, it is crucial to address several basic questions:

1. What are the turnover rates for teachers at the school level?
2. Are turnover rates similar across all schools? If not, what characterizes schools with particularly high or low turnover rates?
3. Are turnover rates consistent over time? If not, can differences between periods be explained?
4. What distinguishes schools that have improved in teacher quality and overall conditions from those where teacher quality has declined and conditions have worsened?
5. Do turnover rates affect student performance?

The final three questions will be addressed in a separate study. In this chapter, we focus solely on teacher turnover rates and their distribution by various characteristics.

14 In this context, the educational reform in Washington DC is frequently mentioned. As part of this reform, teachers who were evaluated as under-performing were removed from the system. The result was an improvement in student achievements. However, critics of the reform argued that this outcome was only possible because teacher salaries were significantly increased and there was a large pool of qualified teachers in the area. According to these critics, since these two conditions cannot always be replicated, it is unrealistic to expect similar results in every location where such a policy is implemented.

At the school level, each year, a significant number of teachers leave, either permanently or temporarily, and the following year, they are replaced by others. Turnover rates vary across schools but are almost always higher than the rate of teachers permanently leaving the system. Who are the teachers leaving a particular school, and who are the teachers joining the following year?

The departing teachers include:

- Teachers retiring at the age specified in labor agreements
- Teachers taking early retirement
- Teachers leaving the country
- Teachers transferring to a different school due to relocation or other reasons
- Teachers taking a sabbatical year
- Teachers on unpaid leave
- Teachers taking extended maternity leave
- Teachers leaving the school for other reasons

In the first three categories, approximately 4%–6% of all teachers in the system leave each year (see CBS, 2023b, Table Z). The fourth category primarily includes teachers relocating due to a change in residence. According to CBS data on migration between localities (CBS, 2023a, Table 2.26), about 3% of the country's population moves between localities each year. Since internal migration within localities is higher than migration between localities, it can be assumed that 6%–8% of the total population changes residence (both within and between localities).[15] It is likely that this rate is even higher among teachers due to their age and greater mobility, often tied to the relocation of their spouses. Other reasons, such as dissatisfaction with their current school or seeking advancement through a move to another school, also contribute. Even if not all teachers who change residence change their workplace, it is reasonable to estimate that 5% of teachers do so for relocation or the reasons mentioned above. The fifth category refers to teachers taking a sabbatical. Since teachers are entitled to a sabbatical every six years, 16% of teachers are eligible each year. We do not have data on the number of teachers who actually take their

15 See Yogev Sharvit's blog, the Municipal Index, Mobility patterns within localities and outside of them, February 11, 2021.

sabbatical. For the last three categories, we do not have precise estimates, but it is likely that they account for another 5%. Summing these, a rough estimate suggests that about 20%–25% of teachers leave each school each year, with a similar proportion of new or returning teachers joining the school annually (Ingersoll & Tran, 2023).

The incoming teachers are essentially a mirror image of those leaving:

- New teachers (from teacher training institutions and those transitioning from other professions)
- Teachers returning from extended retirement
- Immigrant teachers
- Teachers transferring from other schools due to relocation or other reasons
- Teachers returning from sabbatical
- Teachers returning from unpaid leave
- Teachers returning from extended maternity leave

As noted, the rate of teachers joining schools is slightly higher than the rate of teachers leaving. The reason for this is that the total number of teachers increases each year at a faster pace than the number of students and classes.

How did we examine this?

Based on CBS data, we identified departing teachers at each school in a given year and teachers joining the school the following year. This analysis was conducted with breakdowns by sector and supervisory authority for the school years 2010/2011, 2015/2016, 2018/2019, and the past two years. We grouped schools from which teachers left into four categories based on the proportion of departing teachers: up to 15%, 15%–25%, 25%–35%, and 35% or more. We then examined the proportions of teachers joining these schools according to the same categorization.

For the most recent year, we analyzed the distribution of schools within these four categories based on additional criteria, such as socioeconomic cluster, Nurture Index,[16] school size, and various teacher characteristics, including education level, seniority, and absence rates.

Following this, for the most recent year, we performed a similar categorization but excluded schools with fewer than 100 students and Recognized Unofficial schools. The former were excluded due to the small number of schools of this size, the small number of teachers in these schools, and the significant influence of each departure and arrival on turnover rates. Both groups were excluded due to data quality concerns regarding teachers and the state's lower commitment to staffing teaching positions at these schools.

Turnover rates over time

As shown in Table 7, during the years examined, the annual rate of departing teachers ranged between 18% and 22%, while the rate of new teacher arrivals relative to the number of teachers who taught at the school the previous year ranged between 18% and 28%. The proportion of new teachers out of the teaching staff ranges from 19% to 27% across the period. It appears that the scale of the phenomenon — particularly regarding the number of new teachers — is not consistent over time, and the gaps between the rates of incoming and outgoing teachers also vary from year to year. However, in most cases, the share of new teachers exceeds the share of departing teachers. In this sense, 2021 stands out as an exception; it is likely that the Covid-19 pandemic caused many teachers to leave the system. What may be surprising is not only the differences in the rates of incoming and outgoing teachers across years but also the variability in the gaps between these rates. In any case, even in the year with the lowest departure rates, close to 20% of teachers left the system — and likely more if considering only official primary education (excluding Haredi and private schools) in schools with six or more classes.

16 The school Nurture Index is a socioeconomic index of the school population and is an indicator of the socioeconomic status of the students and their families.

Table 7. Departing and incoming teachers, selected years

Departure year	Year joined	Number of schools	Total number of teachers in departure year	Total number of teachers in joining year	Number leaving in departure year	Number joining in joining year
2010	2011	2,653	71,712	76,143	15,934 (22%)	20,365 (27%)
2015	2016	2,955	83,962	85,365	17,631 (21%)	19,034 (22%)
2019	2019	2,883	91,817	93,453	16,224 (18%)	17,860 (19%)
2021	2022	3,037	103,596	99,930	22,244 (21%)	18,578 (19%)
2022	2023	2,933	106,438	112,392	21,393 (20%)	27,347 (24%)

Note: Values in parentheses represent the share of outgoing and incoming teachers during the year of departure and arrival, respectively.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

We move now to a more detailed examination of the rates of departing teachers in 2022 compared to the rates of incoming teachers in 2023. We first analyze this for the system as a whole (Table 8a) and then specifically for Official schools with six or more classes (Table 8b).

Table 8a. Outgoing and incoming teachers out of the overall teacher population in the system, 2022 and 2023

Departure rate	Number of schools in 2022	Number of teachers in 2022	Number of teachers in 2023	Number who left in 2022	Number who joined in 2023
1%–15%	1,002	40,118	43,660	3,584	7,126
				(9%)	(16%)
15%–25%	1,064	39,033	41,117	7,712	9,796
				(20%)	(24%)
25%–35%	795	24,816	25,761	7,239	8,184
				(29%)	(32%)
35+%	471	11,897	12,187	5,067	5,357
				(43%)	(44%)
Total	3,332	115,864	122,725	23,602	30,463
				(20%)	(25%)

Table 8b. Outgoing and incoming teachers out of the overall teacher population in the Official education system in schools with 6 classes or more, 2022 and 2023

Departure rate	Number of schools in 2022	Number of teachers in 2022	Number of teachers in 2023	Number who left in 2022	Number who joined in 2023
1%–15%	875	31,304	33,023	2,829	4,548
				(9%)	(14%)
15%–25%	695	26,235	27,320	5,086	6,171
				(19%)	(23%)
25%–35%	567	19,970	20,767	5,290	6,087
				(26%)	(29%)
35+%	346	11,093	11,387	3,826	4,120
				(34%)	(36%)
Total	2,160	77,110	80,101	14,807	17,798
				(19%)	(22%)

Note: Values in parentheses represent the share of outgoing and incoming teachers during the year of departure and arrival, respectively.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

A preliminary analysis of the data yields several conclusions:

1. The turnover rate for teachers is significantly higher than their dropout rate. While the dropout rate ranges between 4% and 5%, in 2023, 25% of teachers joined schools where they had not taught the previous year (22% in Official education schools with six or more classes), and the rate of teachers who left their schools but did not leave the education system was 20% (19% in Official education schools with six or more classes).
2. Distribution of schools by turnover rates: Schools where the turnover rate is below 15% comprise 40% of all institutions, while schools with turnover rates exceeding 35% make up 16%. It is likely that these schools experience a particularly acute sense of teacher shortages.

When analyzing turnover rates by sector and supervisory authority (Table 9), the following findings emerged:

1. Sector differences in turnover rates: In Hebrew State, State-religious, and Haredi education, the percentage of schools with turnover rates above 35% was 17%, while in Arab education, it was only 4.5%. Conversely, the percentage of schools with turnover rates below 15% was 12% in Hebrew State and State-religious education, 58% in Arab education, and 45% in Haredi education. This may suggest that teachers in Arab education are more concerned about losing their jobs, that internal migration rates in this sector are low, and that extended maternity leaves and sabbaticals are less common. Similar trends are observed in the Haredi sector.
2. Growth in the system: Generally, the rates of new teacher arrivals exceed the rates of teacher departures, contributing to the continuous growth of the system.

Table 9. Outgoing and incoming teachers out of the overall teacher population, by sector and supervisory authority, 2022 and 2023

Supervisory authority	Departure rate	Number of schools in 2022	Number of teachers in 2022	Number of teachers in 2023	Number who left in 2022	Number who joined in 2023
Hebrew State	1%–15%	158	4,832	5,340	534 (11%)	1,042 (20%)
	15%–25%	506	18,434	19,409	3,712 (20%)	4,6872 (24%)
	25%–35%	401	13,215	13,602	3,869 (29%)	4,256 (31%)
	35+%	217	6,028	6,015	2,515 (42%)	2,502 (42%)
	Total	1,282	42,509	44,366	10,630 (25%)	12,487 (28%)
State-religious	1%–15%	61	1,928	2,114	198 (10%)	384 (18%)
	15%–25%	172	6,266	6,801	1,275 (20%)	1,810 (27%)
	25%–35%	199	6,194	6,545	1,820 (29%)	2,171 (33%)
	35+%	91	2,598	2,664	1,062 (41%)	1,128 (42%)
	Total	523	16,986	18,124	4,355 (26%)	5,493 (30%)
Haredi	1%–15%	348	18,473	20,569	1,567 (8%)	3,663 (18%)
	15%–25%	183	7,756	8,122	1,504 (19%)	1,870 (23%)
	25%–35%	118	3,447	3,698	994 (29%)	1,245 (34%)
	35+%	129	2,640	2,907	1,213 (46%)	1,480 (51%)
	Total	778	32,316	35,296	5,278 (16%)	8,258 (23%)

Table 9 (continued). Outgoing and incoming teachers out of the overall teacher population, by sector and supervisory authority, 2022 and 2023

Supervisory authority	Departure rate	Number of schools in 2022	Number of teachers in 2022	Number of teachers in 2023	Number who left in 2022	Number who joined in 2023
State Arab	1%–15%	435	14,885	15,637	1,285 (9%)	2,037 (13%)
	15%–25%	203	6,577	6,785	1,221 (19%)	1,429 (21%)
	25%–35%	77	1,960	1,916	556 (28%)	512 (27%)
	35+%	34	631	601	277 (44%)	247 (41%)
	Total	749	24,053	24,939	3,339 (14%)	4,225 (17%)
Grand total		3,332	115,864	122,725	23,602 (20%)	30,463 (25%)

Note: Values in parentheses represent the share of outgoing and incoming teachers during the year of departure and arrival, respectively.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

It appears that the prominence of discussions about teacher shortages is significantly influenced by the fact that issues like teacher absenteeism, mobility, and turnover are more noticeable in well-established areas and schools that are closer to media attention.

Table 10 presents findings from a regression model examining the relationship between teacher turnover rates at the school level and characteristics of teachers and students at the school, including the percentage of teacher absence hours out of their total annual working hours, across a sample of 2,016 schools. The regression analysis reveals several key findings. Teacher turnover rates in Hebrew State and State-religious schools are higher than those in Arab State schools. Larger schools, those in higher socioeconomic brackets, and those with a higher percentage of teacher absence hours have significantly higher turnover rates. Schools in periphery regions have lower turnover rates

than those in central areas. Turnover rates are significantly lower in schools with higher average class hours, higher average teaching seniority, a higher percentage of certified teachers with academic degrees, a greater number of full-time positions, and a higher student-to-teacher ratio. The findings of the model, based on the adjusted coefficient, indicate that the largest contribution to the explained variance in achievements is associated with the educational sector of the school.

Table 10. Regression model: Results of the estimate of explanatory variables for teacher turnover rates at the school level

	Coefficient	Significance	Adjusted coefficient
Regression slope	0.470	<.0001	
Hebrew State education	0.071	<.0001	0.339
State-religious	0.079	<.0001	0.317
School size (number of students)	0.000	0.004	0.176
Socioeconomic index of the school students (deciles)	0.007	0.001	0.110
Absenteeism rate (hours)	0.002	<.0001	0.098
Locality socioeconomic cluster	0.002	0.068	0.053
Periphery	-0.015	0.000	-0.070
Average classroom hours	-0.000	0.001	-0.111
Average teacher seniority	-0.003	<.0001	-0.111
Share of qualified teachers with academic degree	-0.180	<.0001	-0.112
FTE positions in the school	-0.002	<.0001	-0.239
Average number of students per teacher	-0.009	<.0001	-0.315
Number of schools (N)	2,016		
R^2	0.405		

Note: The Socioeconomic Index of school students was developed by the CBS and is designed to characterize the composition of students in terms of parental education, parental income, number of siblings, and the mother's marital status. The index was developed using a factor analysis method.

Source: Nachum Blass, Taub Center and David Maagan, CBS | Data: CBS (special data analysis)

Academic achievements

Academic achievements are one of the metrics used to evaluate the performance of the education system. While they do not fully reflect the overall skills and abilities of students, they are a commonly accepted tool for assessing the level of knowledge and skills acquired within the education system. Achievement tests enable comparisons of student success across different educational institutions, between countries, and even over time, providing valuable insights for improving educational policy. In this section, we review the results of tests conducted in 4th and 8th grades, the Bagrut exams, and international assessments.

4th and 8th grade achievements

The body responsible for measuring academic achievements in Israel is the National Authority for Measurement and Evaluation in Education (RAMA). For many years since its establishment, RAMA conducted this work primarily through the Meitzav exams. These reports allowed for monitoring of the education system's progress in terms of student abilities in language arts (Hebrew in the Hebrew education system; Arabic in the Arab education system), English (as a second language), mathematics, and science, as well as evaluating the educational climate in schools. In 2018/2019, for various reasons — primarily widespread public criticism — the Ministry of Education discontinued the Meitzav exams, leaving the education system without a central, official tool for tracking student achievements across education levels, population groups, and taught material. Only recently, in 2021/2022 did the Ministry of Education resume conducting a national literacy test for 4th graders, repeating the test in 4th and 8th grades in 2022/2023. Consequently, for longitudinal comparisons, only the 4th grade test results are available, and for comparisons across sectors, supervisory authorities, and socioeconomic levels, results from three tests are available. These are supplemented by international assessments.

The results of the 2022/2023 4th grade literacy test, conducted a year after the Covid-19 pandemic subsided, indicate significant improvement compared to 2021/22. According to the report:

> A broad and significant increase is evident in the achievements of 4th grade students in their native language in 2022/2023 across all groups in Israeli society. In one-third of Hebrew-speaking schools (37%) and two-thirds of Arabic-speaking schools (67%), there was a substantial improvement in average scores compared to the previous year. [...] The proportion of students classified at the highest performance level rose to 59% among Hebrew speakers (+16%), 40% among students in Haredi-supervised schools (+8%), and 12% among Arabic speakers (+9%).[17]

The test results also highlight significant achievement gaps between Jewish and Arab students and between schools from weaker socioeconomic backgrounds and those from stronger ones, though this is not new. The results reflect the changes in the education system between December 2021 and January 2023, and are indeed encouraging. However, as the saying goes, one swallow doesn't make a summer. Unfortunately, it is not possible to determine whether the 2022/2023 results return 4th grade students to the pre-Covid-19 level, as the tests are not comparable. Therefore, the 2023/2024 test must be awaited to assess whether the improvement trend continues. For 8th grade students, who took the test for the first time, no progress can be assessed as there is no prior comparison point. However, the results similarly indicate significant gaps between Hebrew-speaking and Arabic-speaking students.

Bagrut exam achievements

Did Covid-19 have a negative effect on students' achievements in the Bagrut exams? According to data from the CBS Statistical Abstract (2023a, Table 4.19) and the Ministry of Education's Transparency in Education website, the answer is no. The Statistical Abstract data for 2020–2021, the Covid-19 years, are comparable to or slightly exceed the data from 2019, the year before Covid-19. According to the Transparency in Education data, there was a moderate increase in Bagrut qualification rates between 2013/2014 and 2018/2019. Surprisingly, this upward trend continued during the Covid-19 years, 2019/2020 and 2020/2021. The most recent data, from 2021/2022, show that the qualification rate remained at 76%, which is 6% higher than the rate before the Covid-19 crisis in 2018/2019.

17 See the RAMA website, Language literacy among 4th and 8th grade students: A status report — 2022/2023.

Two explanations can be proposed for this phenomenon: one more optimistic, the other less so. The optimistic explanation suggests that the maintenance of achievements is due to the significantly increased efficiency of learning in smaller classes — even if this reduced the number of teaching hours — and possibly the effectiveness of remote learning. The less optimistic and probably more plausible explanation is that the standards were lowered to account for the loss of school days.

An important and interesting data point — perhaps supporting the optimistic explanation — is that examination participation rates slightly increased in Hebrew education and remained unchanged in Arab education. It is also noteworthy that the participation rate among all students in Arab education is significantly higher than in Hebrew education. Moreover, the growth rate in Bagrut qualification in Arab education is higher than in Hebrew education. In 2021, Arab students' qualification rate even surpassed that of their Jewish counterparts. However, Hebrew education maintained its advantage in the qualification rate for certificates meeting university admission requirements (61.6% compared to 50.2%).

Achievements on international exams

Recently, the results of three international assessments were published: the PIRLS test for 4th grade students, the TIMSS test for 8th grade students, and the PISA test for 15-year-olds (RAMA, 2023a, 2023b, 2024). International assessments hold great importance; they offer insights into various aspects of the functioning of education systems in different countries. However, it is important to emphasize what they do not reveal — namely, any connection between these tests and a country's future economic growth (see Blass et al., 2023a). Drawing conclusions from their results about the quality of a country's education system is even more challenging. Such judgments depend on how the goals of the education system are defined, which are largely subject to ideological interpretation. Another difficulty in this context is that the impacts of education systems are long-term and cannot be adequately assessed at a single point in time.

In general, the results of these tests are inconsistent. In the PIRLS and TIMSS assessments, there was a sharp decline in average scores compared to previous years, while the PISA test showed stability in student performance.

In the PIRLS test for native language reading conducted in 2021, the average score of Israeli students dropped by about 20 points (to a level comparable to 2001), compared to an average decline of just 8 points across the countries surveyed. In the TIMSS test for mathematics and science (2023), the decline among Israeli students was even more pronounced — 32 points, compared to an average drop of 11.5 points in the other countries surveyed. By contrast, the PISA test (2022) presents a different picture. This discrepancy may stem from the fact that PIRLS and TIMSS focus on earlier-stage skills, which were more severely affected by disruptions caused by Covid-19, whereas PISA evaluates broader skills that may be less sensitive to such disruptions. It is reasonable to assume that the Covid-19 pandemic also influenced performance on the 2023 TIMSS test. However, this raises the question of why the decline in Israel was so dramatic compared to other countries. As RAMA researchers noted: "It is important to remember that the study does not allow for causal conclusions regarding changes in performance. [...] As the data presented here indicate, the downward trend observed in Israel is exceptional compared to other countries, making it difficult to attribute it solely to the effects of the pandemic" (RAMA, 2023c).

In the PISA test, which assesses literacy in mathematics, science, and reading, Israel was among the few countries where top-performing students achieved higher scores than in the previous assessment in 2018. In addition, the decline in performance among students from disadvantaged socioeconomic backgrounds was among the lowest. This, naturally, improved Israel's relative ranking among the assessed countries (RAMA, 2023b). These results were achieved despite the fact that 75% of Israeli students reported prolonged absences from school compared to an OECD average of 60%, and despite Israeli students reporting lower confidence in their ability to learn remotely and less availability of their teachers compared to the OECD average.

It remains unclear why the achievements of younger Israeli students were more affected by the pandemic compared to their peers in other countries, while older Israeli students managed to maintain relatively high performance levels compared to their OECD counterparts. RAMA's reports also failed to provide an explanation for this phenomenon.

Summary

We began this chapter with a brief discussion of the effects of the war on the education system. We have done our best to point to possible directions for future developments, fully aware that, in general — and especially in Israel — making predictions is a task with limited success.

In the section on the education budget, we showed that the past five years have been marked by extreme instability due to Covid-19, the social and political upheaval surrounding the judicial reform, and the ongoing war, which, at the time of writing, has not yet concluded. These events resulted in the absence of a state budget in 2020 and the need for budget adjustments in 2023 and 2024.

In the main section of this review, which focuses on teaching staff, we revisited the question of whether there is a teacher shortage and a decline in their quality. This time, beyond the usual examination of teacher numbers and training, we focused on issues that are less commonly discussed but are, in our view, closely related to the perception of a teacher shortage — workplace absenteeism, substitute teaching, and turnover. We highlighted the growing and significant scale of teacher absenteeism, the resulting increased need for substitute teachers, and the high rates of teacher turnover, which are particularly pronounced in schools serving more affluent populations.

Finally, in the section on achievements, we briefly reviewed the data from the national achievement tests for 4th and 8th grades. Regarding the 4th grade results, the findings indicate improvement, though it would be prudent to await further assessments, as the most recent data reflect only a two-year period. The data for 8th grade are not comparable, as the tests have only been administered once. In the international assessments, Israeli students' performance in the PIRLS and TIMSS tests was significantly lower than that of their peers in other participating countries. However, in contrast, in the PISA test, the performance of Israeli students remained stable while students in other countries showed sharp declines. We have not found a satisfactory explanation for this disparity.

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